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THE JOURNAL OF PHILOSOPHY

AN EXAMINATION OF PROFESSOR S. ALEXANDER'S THEORY OF TRUTH

I. THE OBJECTIVITY OF TRUTH

ALL of the tertiary qualities are characters of the subject-object relation; but they are differently determined. Goodness is determined by the subject, limited by conditions imposed by external environment; in beauty, the connection between subject and object is more intimate and inseparable; but the character of truth is determined by the object, though truth is a property of judgment.

Art is significant because of mind's imputations; the meaning of a work of art is imported into it; it is mind-saturated. Goodness is an affair of motives or will, and external nature is material only in so far as it is that in respect of which we realize our moral nature. In both cases, the value seems to be "projected" by the subject; it is the "impression" the mind makes on the material world, leaving it beautiful or good.

In the truth situation, Alexander maintains, our personal presence is necessary, but our imputations must be left out. As Bacon says, "Nature is only conquered by obedience." Personality does not control; the object does. Subject is only spectator. Science is pure discovery; not creation. Truth is reality as possessed by mind. Truth differs from reality in that it is possessed by mind, though the mind does not color the object, and is not only impersonalized but depersonalized.

Truth is a value because, like goodness and beauty, it satisfies a human impulse. In the case of truth, the impulse is intellectual curiosity. It is also a value because, like art, it selects departments of the world, and creates a body of its conclusions by arguments of its own, governed by its own convenience, following logical laws, "though these in the end are only broad outlines in things and not pure human inventions."[1] Its entities, e.g., mathematical symbols, have a will of their own, like a novelist's characters. "In its greatest liberty of abstraction, and following out its own abstractions, it is unconsciously turning its eyes towards imprisonment in particulars again."[2] There are no such things, for truth, as pure mental

[1] "Art and Science," *Journal of Philosophical Studies*, Vol. I (1926), p. 16.
[2] *Ibid.*, p. 18.

creations; the validity of even quasi-artistic mathematical objects is not derived from mind alone; mathematics is true of the world because its subject is abstracted from the world of things and never loses its connection therewith. In truth, symbols are verified by the actual facts of experience; science is experimental and the symbols express the metric properties of the world of things. Measurement is our work, but the world is measurable and its units are standards. Science describes, organizes, structuralizes the world, and is verified by the organization and structure in the world.

Truth, though a human invention, is impersonal. Its materials are the natural facts and events which are real but not true. Truths are about facts, and are mental constructions. That the rose, e.g., is red, is a fact. "But when I say it is true that this rose is red, I mean that my belief agrees with other beliefs of other men who see the rose, and with all the other beliefs I or others have about the habits of roses. . . . Error consists, therefore, of judgments or beliefs which will not fit in with the judgments of other men about this or other connected topics, or even with other judgments of my own."[3]

The scientist does not interfere with reality as the artist does. He is led by reality. "He uses himself in order in the end to leave himself out."[4] Science is like art, however, in these respects: it is a possession of the mind, an amalgamation of reality with the mind; and, also, it depends on selection and manipulation of its materials by the mind; and, finally, it is expressive, "only whereas art is expressive of the soul of the artist, or the spectator, truth is expressive of the reality which it portrays."[5]

"When we group animals or plants that we have observed singly, it is we who bring the individuals into classes, and we are intervening in nature, though still not interfering."[6]

Inference is artistry, for nature acts and does not infer. Yet, "the laws we establish by inference are the ways of nature's own behavior, not figments of our mind, not mere ideas which we use, but intimate plans or structures of the world of things and events."[7]

History is dependent on mind for establishing the facts, and collating ideas; thus it is like science, a free movement of mind in grouping significantly, and the mind's process is restricted by the facts. So, too, biology, chemistry, physics.

[3] "The Artistry of Truth," *Hibbert Journal*, Vol. XXIII (1925), p. 294. Cf. *Space, Time, and Deity*, Vol. II, pp. 257 ff.

[4] "The Artistry of Truth," *loc. cit.*

[5] *Ibid.*

[6] *Ibid.*

[7] "Theism and Pantheism," *Hibbert Journal*, Vol. XXV (1927), pp. 251-252.

The more science advances, the more abstract does it become and the more does the mind intervene by its hypotheses and coördinating notions; but the mind is instrumental rather than constitutive. We argue from signs rather than causes; from alternatives or probabilities; yet reasons are founded on causes, and things do admit of being arranged into classes which exclude each other.

Still, the truth, however closely it responds to reality, is not reality. Physics is more obviously an art than other sciences, for physical objects become metrical constructions; the objects of physics are groups of metrical characters which are not perceptual objects but only symbolic of them. Yet the "pointer-readings" are purely symbolic of percepta and not merely an abstraction from that object of its metrical characters. The mind takes from nature what is already in nature.

Alexander criticizes Eddington's idealism, especially the notion that physics is completely an art, conforming to forms of structure chosen by mind. "Mind may act wilfully in ordering its physical world," says Alexander, "but if it does so according to ideas, those ideas seem themselves to have come from physical experience, and to be in the end empirical or experimental notions suggested by external experience, and by the self as the most familiar instance of that experience."[8] Ideas are not creations of mind but abstractions of the most general aspects of concrete experience. Kronecker is right that even the integers of pure mathematics are God-made and not man-made. "We find in nature the forms of our choosing," says Alexander, "because we have chosen them after first finding them in nature."[9] Thus, universals are an item in the world itself. And relativity means that the world is such that from whatever point of view we split space-time in our measurements so as to get different actual measurements, the laws of physics remain the same for all observers or for every point of view. There is no discontinuity between perceptions and thoughts; thought comes from the selection of certain aspects of perceptual matter;—mind may go beyond perception, but it will not create new material, but only combine its store of materials in ways to suit its own purposes. The material of mind is only borrowed from external nature and is not mind's own creation.

Calculus seems to be an example of creation unqualifiedly the mind's own, for therein the mind follows in elaboration its own laws of implication and inference; but even here there is coherence with the basal elements given in whole numbers and created by God and

[8] "Science and Art," *Journal of Philosophical Studies*, Vol. V (1930), p. 345.

[9] *Ibid.*

not man. It seems to take us far away from integers, yet never does it lose touch of them completely—even when the integer is treated as a class of classes. "For though a class is a mental conception, and there are no classes in actual reality, yet reality does contain individuals which, though not mental, suffer themselves to be so grouped because they possess the same qualities." [10]

II. The Social Setting of Truth

"There is one mode of answering this question to which we are compelled by the whole spirit of our inquiry to give short shrift. It is the so-called correspondence theory of truth: a proposition is true if it agrees with reality, false or erroneous if it does not." [11]

Alexander rejects the correspondence theory, for how, he asks, "shall we know reality and bring our beliefs to that test, except in the form of other propositions? If the reality is something other than what appears to us 'by all the ways' of sense, ideas, imagination, memory, conception, judging, it cannot be appealed to." [12]

Not correspondence to reality makes truth true, but coherence. Truth in any subject-matter depends on whether or not the reality about which the proposition is conversant admits or excludes the proposition in virtue of the occupation by the reality in question of a particular configuration in Space-Time; and the truth is determined by collective judging. True propositions cohere with reality, false propositions are rejected by it. The rejection is performed at the guidance of reality through a clash of minds. "For the reality itself cannot be said to exhibit incoherence, since all occupation of Space-Time is orderly." [13]

True propositions are those which settle down into a system with one another; errors are propositions which do not cohere with the rest and are discarded. And a proposition is incoherent with other propositions about that reality in so far as the occupation by the reality in question of a particular configuration in Space-Time is different from the features contained in the erroneous propositions; "and this is discovered by experiment." [14] "Physically, the thing judged is in a certain respect different from the property imputed to it in the erroneous judging." [15] Alexander illustrates his meaning by the following example. Take the erroneous belief that an animal can live without oxygen. Experiment shows that the animal

[10] *Ibid.*
[11] *Space, Time, and Deity*, Vol. II, p. 252.
[12] *Ibid.*
[13] *Ibid.*, Vol. II, p. 253.
[14] *Ibid.*, Vol. II, p. 255.
[15] *Ibid.*

dies in an atmosphere without oxygen. Therefore, the proposition which declares that an animal dies under such conditions is true, and, since life necessitates the presence of oxygen, the proposition stated at first is erroneous and incoherent with the true proposition. It is in this sense that the coherent propositions which make up a given department of reality are incoherent with errors.

The incoherence of the error with the truth does not lie in the conflict of the true believing with the erroneous believing. The conflict exists between the beliefs, "but it follows and is parallel to the contemplated incoherence. For in cognition we watch and do not make. Our believings are guided by the reality outside us, and we do not make the reality but find it. It is only the *truth* that we make when we compare ourselves with one another." [16]

The distinction between the coherence of certain propositions with one another and their incoherence with others is determined by reality itself. But the distinction comes into existence only through the conflict and coöperation of many minds, and the propositions are true only in their relation to the minds which have reality for their possession and reject the judgments of the erroneous minds. Thus, truth is a creation of mind at the bidding of reality. It implies a relation not to individual as individual, but to the individual mind in its attitude to the social mind, that is, to the individual as a standard mind. "The mind which has truth has it so far as various minds collectively contribute their part to the whole system of true beliefs; the mind which has error is so far an outcast from the intellectual community. Thus while on its objective or contemplated side, error is detected by being convicted of introducing an element of reality which does not belong to the reality investigated, on its subjective or believing side it fails to cohere with social believings." [17] Truth means the settling down of individual beliefs into a social whole and the condemnation of the heretical or unscientific believing.

III. What Makes Truth True?

It appears, from our foregoing discussion, that there are for Alexander two tests of truth, parallel and coëxtensive. ***On the objective side,*** as he says, truth consists in asserting of reality an element which belongs to it; ***on the subjective side,*** truth consists in believing what the "social mind" believes. And somehow or other the two are always parallel; i.e., a truth on the subjective side will always have a truth on the objective side and not an error or falsehood.

[16] *Ibid.*, Vol. II, p. 257. Italics in text.
[17] *Ibid.*, Vol. II, p. 258.

Let us consider, first, truth on the subjective side. The objection occurs readily to mind that mayhap the mind which has *truth* is an outcast from the intellectual community, e.g., Bruno, Galileo. "One is ten thousand to me if he be the best," says Heraclitus, and so it must be to everyone. The memorial statue to Bruno was put up by the generation that he foresaw and not by the generation into which he was born.

Alexander lays himself readily open to such easy refutation because he fails to distinguish various types of objects of knowledge, which result in corresponding types of scientific laws. (1) The simplest kind of laws describe the relations of *sense objects,* and go to make up the theory of *perceptual objects.* (2) The second kind is that concerned with the relations of perceptual objects, and these are causal laws. (3) Finally there are the laws relating to scientific objects, the theories of modern science.[18]

Now Alexander's test "on the subjective side" may hold for the first type of law, but not for the latter two. Regarding the first, some sense objects are, e.g., the so-called secondary qualities. For Alexander, they are altogether objective. But it is known that some people are, e.g., color-blind; i.e., their experience with colors is not that of the "normal" man. But they do not disprove the objectivity of colors. They suffer from a visual defect. A color of a thing is what the generality of mankind agree on. This expedient of Alexander's—i.e., the social test of truth—is easily understandable when we have regard only to sense-objects; for how else could he assert unqualified objectivity? Thus, "the agreement of many persons in the belief that the rose is yellow and not white does not make the rose really yellow, it only follows that reality."[19] It is clear that what he maintains is that the collective nose, so to speak, will never follow a *false* scent; and it is also clear why he does maintain this, for it saves sense-objects from subjectivity.[20]

But it is only in the elementary classificatory stage of science that the laws describing the relations of sense objects are found. Science is in the main concerned with more complex types of laws that describe relations between perceptual bodies rather than between sensible qualities, and with the still more complex and general types, as, e.g., the Kinetic Theory, the Laws of Thermodynamics, the Copernican Theory, and the Theory of Relativity. What the collective mind has to do with these types of law it is not easy to see. The validity of the Theory of Evolution is not depend-

[18] *Cf.* Ritchie, *Scientific Method,* Ch. VI.

[19] *Space, Time, and Deity,* Vol. II, p. 254.

[20] We only mean that this may be the motive for Alexander's adoption of the social test, not that it will justify the adoption. It is a gloss on the text.

ent on the suffrage of the people of Tennessee; nor the truth or falsity of the psycho-analytic explanation of the causes of insanity on agreement among alienists.

Turning now to the test of truth "on the objective side," Alexander's view has many ambiguities. On the one hand, he says that the test is systematic coherence; on the other, that it is correspondence of proposition with reality.

There is good reason for this absence of definitiveness, which reason we shall attempt to present. Coherence is itself a character of Reality, "since all occupation of Space-Time is orderly."[21] "For nothing in our experience . . . is isolated and stands absolutely by itself, but is apprehended with its surrounding fringe of Space-Time."[22] He defines belief as the awareness that what is judged belongs to Space-Time as a whole, and he agrees with Bradley that every judgment is ultimately about the whole Reality.[23] *"Die Wahrheit ist das Ganze."*

It appears, then, that coherence is founded in reality itself (though selection is *also* the result of mind). Science in no sense submits "the shows of things to the desires of the mind." Cognition is a direct revelation of reality, and reality has the character of coherence. Reality is a whole for Alexander no less than for the absolute idealist; only it is not a whole that centers in mind. For both, knowledge has the double nature of continuity of mind and reality, only for the former the universe is without consciousness at its centre. The absolute idealist may, therefore, speak of coherence and not of correspondence as the test of truth, for the systematic unity of reality is, to him, an attribution of mind,[24] and "there is no true whole but mind."[25]

But not so for Alexander. Coherence is a character of Space-Time itself. *It is a test of truth because it is a character of reality.* But it is not *really* the test. *The test is the correspondence of coherence among propositions with the coherence among configurations of Space-Time;* not the correspondence of a sensation with a sensum, —for, as we have seen, there is no "pure" sensation *and all knowledge is systematic,*—but the correspondence of systems of ideas with systems of "bits" of Space-Time.

If Alexander's universe of Space-Time were not a continuum, if each finite space were not part of a wider one,[26] he could maintain

[21] *Ibid.*, Vol. II, p. 253.

[22] *Ibid.*, Vol. II, p. 247.

[23] *Ibid.*, Vol. II, p. 248.

[24] *Vide*, e.g., Bosanquet, *Distinction between Mind and Its Objects*, Appendix.

[25] Bosanquet, *Philosophical Theory of the State*, p. 43.

[26] *Space, Time, and Deity*, Vol. I, p. 42.

the correspondence theory simply. Thus Mr. Russell's world consisting of events which are short, small, and haphazard, a world without unity and continuity,[27] necessitates the correspondence test.[28] So, too, does a universe like Mr. Ritchie's, which allows of "disorder."[29]

And if any universe is orderly, it is Alexander's. And if any order is independent of mind, it is that of Space-Time. There are no mental categories that need to grind the grist of reality or supply a medium of cohesion. Even universals are independent of mind. There is nothing for mind to do but correctly register the scene on its photographic plate. Alexander can not, therefore, accept the coherence theory simply.

His whole line of argument leads to only one possible resolution; namely, that the test of truth is correspondence of coherences, the correspondence of mental system to physical system, of ideal whole or coherence to real whole or coherence; neither simple coherence nor simple correspondence, but correspondence of coherences.

This is, we believe, the meaning of Alexander, though, admittedly, it is a far jump from what he says. How, otherwise, can his theory be freed from confusion and self-contradiction? Had he apprehended the elements of his theory with more clarity, he would not have been led, too, to adopt the view that truth is a character of belief or judgment. At nearly every point of his theory of truth Alexander comes pretty close to giving up the ghost of realism. A much simpler line of thought for him would be to hold that since coherence or system is a character of meaning, and reality itself is systematic, truth is correspondence of symbol and referent, when the symbol is considered not arbitrary but natural, and its meaning is, therefore, metaphysical and not merely logical. Truth would be a property of some meaning situations; those situations, namely, where the symbol is taken to have a metaphysical transcendence and stands, in fact, for an existent. The test of the truth of a belief would be not by belief, but by meaning, or the correspondence of the existence of symbol with the existence of referent.

Meaning itself does not imply the existence of the referent, or the terminus in an object, but only the direction of objectivity. It is an activity, and it is expressed by an intention or supposal no less than by a dogmatic judgment. What is meant is never the content or symbol itself. Meaning is wider than existence; and what is important for it is objective reference and not objective existence. Truth is irrelevant to a meaning situation unless the reference is to

[27] *The Scientific Outlook*, p. 98.
[28] *Our Knowledge of the External World*, pp. 40–63.
[29] *Scientific Method*, p. 200.

a metaphysical object, and then its test is the existence of that object.

Coherence, then, is not a test of truth; but, since meaning is wider than existence, we may construct systems of meanings with no reference to objective existence, and the propositions within the system will then have coherence as their test—but not of *truth,* only of their *validity,* or *deontological truth.* Not the laws of existence, but of logic, will be the standard. To make what is the test of such artificial or postulated systems, the test also of metaphysical truth, is altogether without warrant, and is probably the result, directly or indirectly, of an inadequate or false analysis of the types of meaning situations. If this essay will dissipate some of the confusion, it will have accomplished its purpose.

"The mind of man seems to be of a nature to assimilate itself to the universe; we belong to the world; the world is mirrored in us. Therefore, when we bend our thoughts on a limited object, we concentrate faculties which are naturally endowed with infinite correspondences." [30]

IV. Summary and Conclusions

The analysis of meaning as related to a theory of knowledge or truth has resulted in our acceptance of meaning as the key, so to speak, to truth. Our conclusions may be summarized briefly: (1) Meaning is wider than existence. Meaning always has a direction of objectivity, symbol never means itself, but some object, but the object, to be that, need not be an existent, it needs only to be projected. (2) Truth can properly be spoken of only when the objective reference in the meaning situation is to an existent, actual or supposed. In the land of Make-believe there is no truth or error. (3) Symbols are arbitrary or natural. Science is concerned with the latter kind. It is interested in necessary connections; necessary connections between the sensible qualities of a perceptible object, or between perceptible objects. The meaning relation is not between arbitrary elements, but between elements standing in a relationship of necessary connection. (4) Truth is the correspondence of symbol and object, symbol being natural and not arbitrary.[31] (5) Symbols may be postulated. When a system of them is constructed, their coherence within the system is their validity, or, if you prefer, their truth (however, in a deontological sense). (6) There are, then, two tests; namely, of truth and of validity; one pertinent in a system of natural symbols or propositions, the other in a system of postulated or arbitrary symbols or propositions. With reference to the former,

[30] Christopher Dawson, *The Age of the Gods.*

[31] Where we have been speaking of symbol, others would have used the term "content" or "proposition."

the test is correspondence; with reference to the latter, the test is coherence or consistency. (7) Alexander accepts the coherence theory of truth. But what he *really* means is that the test is the correspondence of a system of ideas to a system of reals; the correspondence of coherences.

The last point suggests Joachim's discussion of the correspondence theory in *The Nature of Truth*. "If you have a whole of parts," he says, "such that each part contributes determinately to constitute the whole, and that the structural plan of the whole determines precisely the nature of the differences which are its parts, you can compare this whole with another whole of the same type. And you can say 'the part x in A (the first whole) corresponds to the part y in B (the second whole).'"[32] Correspondence, when attributed to the wholes, means an identity of purpose expressed through materially different constituents as an identical structure or plan; when attributed to the parts, correspondence means identity of function contributed by materially different constituents towards the maintenance of an identical plan or structure.

Taking correspondence in this sense, he concludes that the nature of the structure, or the purpose or idea which it unfolds, emerges more into importance as the essence of truth, while the fact of correspondence shows itself as nothing more than a "symptom" of truth. If, e.g., you say that Euclidean space is the reality correspondence with which constitutes the truth of a judgment, Joachim replies that Euclidean space itself is a system of such judgments, and that the truth of each of them is constituted by its coherence with all the others, but not by its correspondence with anything external to the system.[33]

Now this critique of correspondence has a semblance of force, and, if not questioned, might be taken to substantiate Alexander.[34] But it may be questioned with justice. True, a scientific judgment is tested by coherence with a system of judgments which we call a science. This we have not doubted. But what makes the science true? Alexander can logically give only one possible answer, and that is, correspondence with a system of configurations of Space-Time that are taken as the subject-matter of the particular science. The spirit and logic of his enquiry will permit of no alternative solution. Truth is still "for" mind, but not mental.[35]

MILTON R. KONVITZ.

NEWARK, NEW JERSEY.

[32] Pp. 9–10.

[33] P. 28.

[34] That is, the coherence theory as he formulates it, free from correspondence,—not our "restatement."

[35] Cf. *Space, Time, and Deity*, Vol. II, pp. 253–254.

THE CAUSAL SITUATION

WE are concerned in this paper with an analysis of the traits in virtue of which things have been said to be causes. An enterprise of this kind, however, is confronted by certain initial difficulties. The first and chief obstacle is the scepticism that prevails in some quarters with regard to the possibility of defining the term. "Either your definition will be arbitrary," it is said, "or it most certainly will be false." Yet curiously enough there is little that is arbitrary in people's usage of the term. We employ the word daily and seem to know pretty well what we mean by it; well enough anyway to put and answer questions and engage in practical undertakings. Since our concern is with those traits in virtue of which things are *said* to be causes, there is no reason why we should be unable to come to some fairly satisfactory conclusion, so long as our enquiry is controlled by the field the word delimits. Such an enquiry would really constitute a clarification of the word's usage and a progress in our knowledge. Its results could be checked by anyone who cares to go over the ground himself and would be subject to the criticism and revision which such a check might suggest.

The second obstacle is more formidable although essentially it is of the same kind as the first. "Granted," it might be said, "that we should be controlled by our subject-matter. What does an analysis of subject-matter yield us? Not one definition but many; and what is more all clearly incompatible. We ask: what is the cause of the lifting of the weight, and we answer: the pressure exerted. In this case, as commonly understood, the cause precedes the effect and produces it; *compels* its coming-to-be, in fact. Yet in another instance the cause does not precede the effect nor produce it; as when we say, molecular motion is the cause of heat. Here the cause is simultaneous with heat. Both are analyses of the field delineated by the usage of the term 'cause' and yet they are incompatible. When we examine the writings of philosophers the situation seems even more hopeless. One denies that casuality involves any kind of necessity; another claims the tie to be symmetrical; either factor can serve as the cause as one pleases. And all contend for their conclusions that they have the testimony of circumscribed subject matter."

The outcome of these considerations, however, is not that the word "cause" is indefinable since the conclusion itself rests upon definitions of the word, albeit incompatible ones. All we are permitted to conclude (if we may, indeed, conclude that much) is that *the* definition of the word "cause" does not exist. We may, if we please, contend that we are dealing here merely with a word, a sound or

a written mark, but that what the mark or sound represents is many and divergent. But even if we were so to conclude it does not follow that the term "cause" can not be defined. All that does follow, as a matter of fact, is that it can not be defined except with reference to a specific context, and that since the contexts are many, the definitions are many. Indeed the objection to our inquiry presupposes this. For it is contended that the incompatible definitions all possess the testimony of delimited fields; and since the definitions diverge, to what else can we ascribe their divergence except to the differences in the fields delimited? Thus when the cause is spoken of as compulsive and prior to the effect it is clear that the context denoted is one quite close to practical affairs in which men pursue ends and utilize means for their attainment. When the "cause" is simultaneous with the effect it is equally clear that the realm of scientific knowledge is meant, in which investigators seek the "reasons" for things, for their being as they are and not otherwise.

Recognition that clarification involves contextual reference has the effect of removing the incompatibilities. The definitions *are* incompatible only if we fail to limit the field to which they are relevant. Proper limitation at once furnishes us with the analytic context and at the same time, as we have said, obviates the incompatibilities, since it is nonsense to speak of the *fields* as incompatible. Such limitation, however, has a further consequence: it compels us upon analysis to recognize that some of the usages of the term "cause" are supplementary. We are compelled to realize that they are and can be treated as discriminated aspects of a wider context, of an *integral causal situation,* and that within this framework they are coëxistent and cointelligible. Our conclusion (to be established) therefore is: an analysis of the traits in virtue of which things have been said to be causes is intelligible only within a contextual framework. Since the frameworks are many, the definitions are many, and there is no single definition of causality. The multiplicity of contexts and definitions, however, must not lead us to conclude that they are independent of one another; i.e., that the word "cause" is a mark which stands for things divergent. Whatever connection there is or is not must itself be determined by analysis, and this, in our opinion, compels us to realize that some of the definitions supplement one another; that the contexts to which they are relevant are simply discriminations within a more integral framework, which we call "the causal situation."

We begin our analysis with a consideration of interaction or stimulus and response. The term "cause" is not ordinarily used in this manner and it could therefore be said that our beginning has

scant justification. Our reason for so beginning, however, it that it is impossible to clarify the ordinary usages of causality without a consideration of interaction. This will become clearer in the sequel.

Every interaction is a process in which certain potentialities of the factors involved are actualized. Vision, for example, occurs when the visible and potentially seeing are connected under the proper conditions. The potentialities, of course, must be specific and appropriate to one another and to the interaction. The eyes are fitted for seeing; the table for being seen; and the fitness of either for vision would not, in itself, be sufficient unless they were also fitted to one another (under proper conditions).

Because of this and because in nature the interaction is an exchange, it is incorrect to specify one factor as cause and the other as effect. An axe, for example, in splitting wood is as much acted upon by the wood as the latter acts upon it. We may say that in the split*ting* they are simultaneously effective. Either can then be termed a "cause" or "effect" as one pleases, and it is incorrect (in the splitting) to speak of one producing the other or coming after the other. Both, of course, are active: the axe, we say, "splits the wood" and the "wood splits" or "stops the axe"; and the activity is indicated by the tense of the verb.

The interactions of things taken as a whole are productive (effective) since it is within these interactions that powers and potentialities are fulfilled. The fulfillment and elimination of potentialities occur at once. Each alteration brings something to light and puts many things away. The order can consequently be said to be from the present to the past and the future simultaneously. Interactions add to the past (in the elimination of potentialities) and devour the future (in their fulfillment). Their order is therefore quite different from the order usually attributed to causality which is one of succession.

We are now in a position to determine the traits in virtue of which things are said to be causes in the ordinary sense (in which the cause precedes the effect and produces it). We see because we open our eyes or turn on the electric light or pull up the shade. These are typical examples of causality in its ordinary usage. What precisely has taken place in these instances? Simply this: the opening of the eyes has established a situation in which vision occurs. It has effected an interplay between organism and environment which is called seeing. In this sense it has fulfilled the potentialities of the environment so far as seeing is concerned. The fulfillment of potentialities (for vision) does not, however, explain why turning on the electric light, let us say, is the cause rather than the exercise of the eyes. So long as we confine ourselves to the interaction any

factor necessary could just as well be the cause, or all of them. We, however, single out one only and consider that appropriate.

The reason for this is that the cause is intelligible not only in terms of the interaction, but also in terms of the other factors of the interaction. The cause is what is novel to the situation and completes the other factors, as opening the eyes completes the optical network, and exerting pressure on a lever completes the conditions of its operation. In the case of the lever, for example, all of the other conditions for lifting the weight are present, as the weight itself and its distance from the fulcrum. The pressure on the lever is both new to the situation and completes it. The constant and novel factors, of course, are *constant* and *novel* only in the light of the completed interaction. Before the event has taken place the constant factors are the ground for a number of potential occurrences; but the novel factor selects as it were one set of potentialities only and completes them. Thus an unwrought piece of clay has the possibilities of an infinite set of forms; the sculptor, however, actualizes but one possibility and molds but one form. In this sense the constant set of factors are sometimes called the patient and the novel set the agent.

We can now see why the novel factor is popularly said to be productive. It is productive because under the stable conditions and in the light of the ending it has effected a fulfillment; in this way it has enforced the result. The cause, however, is also said to precede the effect. Yet, in the interaction, this is not the case. The exerting of pressure, for example, does not precede the lifting of the weight. We must therefore consider the novel factor in some other way (i.e., not in the interaction) if we are to understand why the novel factor is said to precede the effect, since our object is to clarify common usage, not to confuse it.

If we look more closely we see that what is true of the precedence of the cause is also true of its novelty, for, *in the interaction,* the distinction between novel and constant factors is a meaningless one, just as the distinction between predecessor and successor is then non-existent. To speak of a novel factor intelligibly we must consider the interaction *before* the exchange has been effected; or, somewhat differently, before the conditions necessary to the interaction have been established. The position of the novel factor is then somewhat paradoxical. The novel factor is novel only in the light of the ending and of the other constant factors. The ending must therefore have taken place or it would be meaningless to speak of a cause in this sense. On the other hand, it can not be novel unless it is considered *before* the interaction has occurred, or in other words, before the ending has taken place. But if it is considered *before* the

ending has occurred, in what sense can it be called a cause, since it seems to bear no relation to the ending and therefore lacks the context which would render it significant as a cause? Yet popular usage seems to place itself in both these positions at once when it speaks of a cause as that which precedes the event and produces it.

There is no paradox, however, if we realize that the cause is not only the novel factor which *has* produced the event, but also that which was *able* to produce it, that the novel factor is treated both as potentially and actually effective. There is no cause before the event of which it is the cause has taken place. In this sense, only that which has actually been effective can be said to be a cause; but after the event has occurred, the novel factor can be treated as potentially effective, is so treated, in fact, or it could not even be spoken of as a novel factor. As such it precedes the effect, exists before it and yet is intelligible in terms of it. Once this is understood, the conjunction of both of these senses in popular usage ceases to be a paradox, since a thing can not be regarded as potentially effective except in the light of an actual occurrence *for* which it is effective; and on the other hand, every effect involves the fulfillment of potentialities, presupposes a situation in which things, by the exercise of their powers, bring the event to pass. The actual and potential are therefore mingled in every causal situation. Hence also their conjunction in the usage of the word "cause."

This is exemplified by our practical activities whenever we pursue ends. We are then compelled to utilize specific things in conjunction with a specific set of conditions, and the things to be used exist *before* the end is attained. They are then potential *instruments,* that is, things which, taken in conjunction with a certain set of conditions, have the *power* of producing a certain end. On the other hand what we designate as an instrument could never be so called unless it had exercised its powers and achieved the end. We may say therefore: to consider anything as able to do so-and-so is to consider it before the actualization has taken place, but also in the light of the actualization; and this is how the novel factor is taken when we say that it precedes the effect and produces it.

The cause of a thing has also meant the reason for a thing, for its being as it is and not differently. We ask: What is the reason for the lifting of the weight? And our answer is: the proportion between forces and the distances involved. When the word "cause" is used in this sense it is clear that it is not prior to its consequences in the same way that the novel factor is prior to the completed interaction. The reason does not precede the event in time as the agent does, but is simultaneous with it. "Cause" now really means the condition of an event, that without which the event can not

occur and which, when present, the event is present. Only, the event herein designated is a *specific* event and the condition a *specific* condition.

This sense of the word "cause" would seem to be incompatible with that of the novel factor since, as we have said, there is no succession involved. The incompatibility is, however, only superficial. We need but analyze any causal situation and we shall discern immediately that the condition is a discriminated aspect of it. There are no causal situations without conditions, without novel and constant factors, without interactions. All these are present, all are inseparable. The novel factor effects the ending only by establishing certain conditions; without the conditions the ending could not come to be, would not be possible. Hence again the importance of knowledge of the conditions in practical undertakings, for it informs us what is necessary for the attainment of certain ends and precisely what novel factors are relevant for our purposes to the constant conditions we find at hand. But the establishment of conditions is itself the work of the novel factors. Specific conditions, relevant to endings, are due to the exercise of the specific appropriate powers and the fulfillment of the specific appropriate potentialities of the novel and constant factors. It would therefore be a mistake to separate these two senses of the word "cause," to think of them as incompatible. Furthermore they are both significant only in the light of the interaction or the ending. We have dwelt on that at some length with regard to the novel factor, but it should also be evident with regard to the condition. For the conditions are the conditions *of* something, of the ending concerned. They are anchored, so to speak, in what they explain. We proceed from the occurrence to its reason so that although, in one sense, the condition is prior to the occurrence since it explains it, in another it is intelligible because of it since, *as a condition,* it would have no meaning except in terms of the event in question.

The condition is then a discrimination within the causal situation. If we consider the latter as it is in practical life our contention will become even clearer. We speak of the "reason" for behavior, meaning thereby the end for which it was intended. Thus we say; "the reason he was so brusque was that he had to make a train," or "he uses medicine in order to recover his health." The desire to recover one's health here *explains* the use of medicine and it is clear that "cause," in this sense, involves a context of ends-pursued and instrumentalities appropriate to those ends. "Cause" then denotes an end the pursuit of which compels the utilization of conditions which will establish that end, and consequently is taken as the reason for the utilization. The transition to the second sense of the word

"cause" is easy; for in order that the end be attained, certain conditions must be fulfilled and the agent that completes the conditions, the instrument, becomes a cause since it is in virtue of it that the end is achieved. Only, so long as the context is a teleological one, it is a "means" we speak of, a "tool" or "instrument" in recognition of its rôle in attaining the goal. Let us put teleology aside, disregard human intervention and human interests, and we have causality in its popular sense, as that which precedes the event and produces it. The novel factor is really the same as the instrument, except the end has become an ending, the means a cause; in other words, except for the fact that teleology has been excluded. In this situation as in the teleological one, cause as condition is easily discernible; for in order that endings occur or ends be achieved, relevant conditions must be established and the existence of the conditions again explains the occurrence of the event or the attainment of the end. However you look at it, therefore, within a teleological context or outside of one, the two senses of "cause" discussed (novel factor and condition) are discriminations of an integral situation, factors that are distinct but inseparable.

So long as we recognize this there is no ambiguity, no difficulty. Ambiguity does arise when we *begin* with the last sense ("cause" as condition) and attempt to derive the others from it. So doing has the effect of transforming the conditions and reasons for behavior into the agents which act. The subject of walking and thinking we would say ordinarily is the man that walks and thinks. Let us, however, begin with the leg and the brain and the subject will no longer be the individual man but the brain and legs themselves. These will be transformed from conditions of thinking and walking into thinkers and walkers. The reason is that these activities must then be defined in terms of their conditions (how else can they be defined if conditions are what we begin with?) and thinking will become a disturbance of the brain, walking an operation of the legs. The activities will thus be transformed from something familiar and accessible into something unfamiliar and inaccessible.

This renders the existence of the accessible a problem. Hence the controversies of modern philosophy. For if thinking (to continue our example) is a disturbance of the brain then what becomes of the familiar behavior with which we began? Either we shall be constrained to eliminate the accessible altogether or we shall have to place it in a realm different from that of its condition. The identification of the function with the condition thus has the effect of rendering the existence of the function questionable or of divorcing it from its structure. Moreover this divorce, whenever it occurs, has wider implications, for the conditions themselves are composed

of elements and the relations between these elements, both of which are quantitative, measurable, and divisible. We can speak, for example, of forces and distances as greater or less or equal to one another and add and subtract them. We can not, however, speak of activities in this way. It does not make sense to subtract blowing from falling or to regard hating as equal to hoping. In like fashion we may divide the condition into its parts, but into what shall we divide the activity? The activity is indivisible. Furthermore, should we examine conditions closely we would perceive that just as their terms are never free from quantitative, so are their ties never free from spacial, aspects, and that these too are numerical. Distances, configurations, and numbers are among the omnipresent and basic conditions of things. Consequently, when beginning with conditions is found to entail either the elimination of the accessible or its divorce from its conditions, it is then found that it also entails either the simultaneous elimination of the dynamic and indivisible or its divorce from the spacial and quantitative. In the first case, when the existence of the familiar is rendered questionable, the philosopher is constrained either to call it an illusion and let it go at that, or more seriously attempt to account for it. He is then compelled to generate the dynamic from the static, the indivisible from the divisible, in a word, the event from its condition. Needless to say, the attempt falls through and the manner of generation remains a mystery. In the second case, where the cleavage has occurred, he is faced with the problem of the connection of the two, a problem which does not seem to admit of an answer since they are regarded as totally different in kind. Hence the imputation of any relation becomes purely arbitrary and something which is beyond verification.

In any causal situation, however, the existence of activity is not to be questioned, nor is there any separation between it and its conditions. These tangles can be avoided, therefore, if we begin with the integral situation and not with any single aspect of it. We then realize that, as we have said, cause as novel factor and cause as condition are simply discriminations within the causal situation.

BROOKLYN COLLEGE ARTHUR LAPAN

BOOK REVIEWS

Der logische Gedanke von Kant bis Hegel. FRANZ HOLZHEIMER. (Forschungen zur neuren Philosophie und ihrer Geschichte. VIII.) Paderborn: Ferdinand Schöningh. 1936. 247 pp. 6 M.

The present volume embodies a familiar formula of German historical scholarship. The formula reduced to its barest essentials

is this: survey the development of a special problem or conception during an historical period from some definite philosophical standpoint. In the present case, the problem is the objectivity of logical thought, the period is from Kant to Hegel and the standpoint is that of phenomenology.

The introductory chapter draws a sharp distinction between formal logic, including logistic, and objective logic. Logistic claims to be the sole exact and pure logic but, in the author's opinion, it purchases exactitude and purity at the sacrifice of relevancy to ordinary modes of thought. Logistic has as much but no more significance for common sense and philosophy than does pure mathematics. Objective logic is a philosophically more fruitful discipline, but unfortunately there is no single, unambiguous definition of what constitutes "objective" logic. Hegel first used the term in his own technical sense, and even the Aristotelian logic is, by virtue of its ontological reference, notably in the doctrine of the categories, an "objective" logic; furthermore, Kant's transcendental logic is, in so far as it fuses logic and epistemology, objective, and finally Husserl has propounded a distinctive form of objectivistic logic. Objective logic is to be differentiated not only from formal logic, but also from psychology. Psychology is a factual science resting on and validated by experience; logic, in contrast, is concerned with timeless meanings. The author's hostility to *Psychologismus* pervades the entire volume.

The very extensive treatment of Kant, which occupies well over half the volume, skillfully recasts into a mold better suited to the author's purposes the entire argument of the *Critique of Pure Reason.* He expounds the doctrines of the critical philosophy in this order: (1) the doctrine of the faculties of mind: the sensibility, the understanding and the reason, (2) the theory of the *a priori* structures: the forms of intuition, the pure concepts of the understanding and the ideas of reason, (3) the theory of the principles of mathematics, of pure natural science, and of metaphysics, and (4) the higher organizing faculties, namely, the transcendental unity of apperception, the transcendental imagination, and the faculty of judgment. This organization by cutting across the esthetic, the analytic, and the diatectic reveals the Kantian doctrines in a more natural perspective than that afforded by Kant's own architectonic.

The transition from Kant to Hegel is conventionally treated: Fichte and Schelling evidently have little to contribute to the author's conception of "objective" logic. He introduces a long chapter on Bardili, a much neglected, but in the author's opinion worthy, exponent of "objective" logic. Bardili is apparently a "find" of the phenomenologists, his *Logic* appeared in 1800, and he

was, according to the title of a lone dissertation devoted to his philosophy, "The representative of logical realism in the age of German idealism." He conceived of logic as conversant with eternal meanings and, in the opinion of Holzheimer, exerted a not inconsiderable influence on Hegel.

The concluding chapter is a phenomenological rendition of Hegel's logical doctrines which does no great violence to them. The author draws very sharply the Hegelian distinction between "finite" thought and "infinite" thought. Thus the volume never loses sight of its dominating conception, that of logical objectivity.

LEDGER WOOD.

PRINCETON UNIVERSITY.

Rousseau und Kant. KLAUS REICH. (Philosophie und Geschichte, 61.) Tübingen: J. C. B. Mohr. 1936. 28 pp. 1.50 M.

In 1935 Dr. Reich wrote a monograph on Kant's relation to Greek ethics. The present genial essay is devoted to Kant's indebtedness to Rousseau. To what extent were Kant's basic ethical principles derived from the concept of human nature portrayed in *Emile* and from the "general will" of the *Social Contract?* The thesis is maintained that Kant's destructive metaphysical account of the nature and conditions of morality is original with him and not merely a development of Rousseau's ideas, though his empirical approach to morality, as, for example, in the "Anthropology," does reveal the stimulating influence of Rousseau. This thesis is hardly original and the supporting argument is slight, but, so far as it goes, it is clear and convincing.

T. M. G.

Recent Philosophy. JOHN LAIRD. (The Home University Library, no. 181.) London: Thornton Butterworth, Ltd. 1936. 256 pp.

Recent Philosophy is designed by Professor Laird as a sequel to Professor Clement C. J. Webb's *History of Philosophy* which appeared in the Home University Library more than twenty years ago. Professor Webb carried his story down to Lotze, Herbert Spencer, and William James. Professor Laird deals almost wholly with the twentieth century.

The last thirty or forty years may not be a more confused period than most other similar periods in the history of philosophy. But certainly they are so close to us, and our immersion in them is so intimate and, usually, so controversial, that they are harder for us to order competently according to types or schools or major tendencies of thought. Professor Laird has made the best provisional ordering I have ever seen of the movement of European and Ameri-

can philosophy during the last generation. The range of his reading has been wide, and his gift of clear characterization fits him well for the rôle of commentator. The omission of himself from the story of the development of "realism" is, I think, the only serious omission which I could mention among European thinkers, though, because of my own immediate contacts and interests, I should have liked to see several more American philosophers receive attention.

After an introduction and a review of philosophy at the beginning of this century, there follow chapters on absolute idealism, the humanistic disciplines (Dilthey, Troeltsch, Weber, Hartmann, Jaspers), the pragmatists and Bergson, Meinong and Husserl, realism, natural knowledge, analysis (B. Russell, Wittgenstein, Carnap and the Vienna School, Reichenbach, and some aspects of G. E. Moore's influence), the new medievalism, axiology and ethics, and a conclusion that tries to estimate whether recent philosophy (1) has given us any great philosophical syntheses, (2) has clarified any major philosophical problems, and (3) has been properly chary of covert assumptions.

Some of the summaries of individual philosophers in three or four pages are ably done and show that it is possible to sum up the chief features of even an intricate system in a few words. At other times (e.g., with Dewey and with Santayana) Professor Laird seems to miss a vital and unifying insight and only to list faithfully some few obvious externals of these men's doctrines. I found the two chapters on realism and natural knowledge the most entertaining in the volume. Professor Laird has here outlined material very close to his own field of work. In the chapter on realism he distinguishes "epistemological realism" and "naturalistic realism," he amusingly describes G. E. Moore's startling discovery that "the verb 'to be' had a perfectly precise meaning, viz., quite simply, *to be*," he points out the influence on realism of Russell's interest in mathematics, he characterizes the new realism and critical realism of the United States and the unique achievement of Alexander. In the chapter on natural knowledge, he departs from the practice of other chapters to argue on seven points connected with the problem of the bearing of recent scientific work on philosophical thinking, which points, even if only developed in the elementary way that is possible in a brief book designed for general readers, are yet well made and soundly argued. Whitehead is the subject of most of the rest of this chapter and is handled well. Professor Laird avoids here, as customarily, any criticism of his own on the man he is discussing; but he summarizes the current attitude towards Whitehead in a way which is itself a significant comment on our times even more than it is an appraisal of Whitehead. "Many

people," he writes, "can not make up their minds whether Whitehead is an obscure philosopher with frequent amazingly lucid intervals, or, on the other hand, a philosopher almost as clear as the profundity of his problems permits."

S. P. L.

La représentation. Essai philosophique. ANDRÉ CRESSON. Paris: Boivin & Cie. 1936. vi + 273 pp. 18 frs.

This study is not an essay in epistemology as that term is frequently used but rather a study in psychobiology. It is granted by the author that the mental states which he is studying are not physical nor does he attempt any reduction of them to modes of motion. He accepts frankly both epistemological and psychophysical dualism and asks himself merely the question of the rôle which the imaginal content of content has to play in our lives.

After having in the traditional manner of the philosopher surveyed his predecessors' theories and found them all wanting, M. Cresson then sets to work upon his own. He distinguishes four kinds of causation: mechanical—the transfer of motion; attractive —magnetism; liberative (*causalité par déclenchement*)—cutting a weighted string; excitative-liberative—the spark in the powder barrel. The two last named are peculiar in that they operate by "eliminating obstacles which were preventing forces already tense and directed towards the production of their effects" (p. 108). As causes, therefore, they do not exhibit the peculiarities of mechanical causes, for there is no possibility of identifying them with their effects in the Meyersonian manner.

"Representations" are *déclencheurs-excitateurs.* They serve a useful purpose biologically in liberating our behavior from obstacles which it would not overcome alone. They are like the semaphore signals seen by a railroad engineer which he interprets—at first consciously, later so rapidly as to be unconscious of what he is doing—as notice that the tracks are clear or blocked. This is but the merest hint of a theory which should prove of interest to patient readers. Unfortunately the *obiter dicta* in the book are of more importance than the conclusion which they serve.

G. B.

Erkenntniskritische Weltanschauung. Auf der Grundlage der Arbeitsbedingungen des Gehirns. ERICH MEISNER. Leipzig: Felix Meiner. 1936. iv + 176 pp. 5 M.

This volume consists of three parts: an account of the nervous system as the basis of epistemology, a section which rejects metaphysical discourse as a discharge of meaningless sounds to relieve a

tension of brain cells, and a final chapter expounding a world view which, in spite of the author's assurances to the contrary, appears to be quite metaphysical.

The leading idea of the book, that thinking is concerned only with spatial images (or ideas), is supported by an interesting but dubious argument. Spatial images, the author says, are necessary and sufficient to direct the movement of an animal in space and this is the only known function of the brain, the unique distinction of animals and their one superiority to plants. These spatial images are all that can be admitted. The law of parsimony forbids us to believe that the evolutionary process could have developed in even the most primitive animals a metaphysical "I," a supersensuous or absolute knowledge, etc., and maintained for millions of years capacities for which no animal could have any conceivable use. It is interesting to observe that James's argument for interaction—that consciousness must be effective else it would never have emerged in the evolutionary process—rests upon the same assumption.

The false simplification and dogmatism and the complete neglect of the social sciences constitute the main weakness of this work. But for those who are acquainted with the official German attitude toward eighteenth-century mechanical materialism, a most interesting point about the book will be that it was published in Leipzig.

V. J. McG.

An Examination of Logical Positivism. JULIUS RUDOLPH WEINBERG. (International Library of Psychology, Philosophy, and Scientific Method.) New York: Harcourt, Brace and Co. London: Kegan Paul, Trench, Trubner & Co., Ltd. 1936. pp. vii + 311. $3.75.

Dr. Weinberg's book is based upon a careful examination of almost all of the literature of logical empiricism. Although in sympathy with the empiricism of the movement and in substantial agreement with its opposition to "trans-empirical" metaphysics, he is critical of most of its specific attempts to solve what he regards as the problems of scientific method. He accepts the general account of logic given by this "school," but rejects for reasons of detail its various theories of communication and verification. The book brings together a mass of scattered material and comes to grips with a number of central problems; it should prove valuable for these reasons alone.

However, Dr. Weinberg's essay has a number of flaws which prevent it from becoming a definitive treatise on its subject. Almost two-thirds of it is devoted to an exposition and criticism of an early form of positivism. And since at present no one (not even

Wittgenstein) seems to profess the atomism, the "solipsism," or the peculiar mysticism concerning logical structure which are all so severely—and for the most part justly—criticized, the interest and value of this performance are not very great. Moreover, while Dr. Weinberg points out very ably the difficulties which face a "finitistic" standpoint such as that of Schlick and Wittgenstein, he has not, I think, demonstrated the falsity of such a position. This part of the book may also suggest to most of its readers that in the *Tractatus* Wittgenstein was speaking for all the members of the Wiener Kreis —although Frank and Neurath, for example, never subscribed to most of its characteristic doctrines. Dr. Weinberg's presentation of purely technical points in logic is not always above reproach: his discussion of probability is particularly unsatisfactory, and he accepts arguments as fatal to the frequency theory which in my opinion have long been exploded.

The last hundred pages supply a useful account of some of the important developments in pure syntax, as well as a critique of physicalism. However, much of this writing is too compact to be quite clear to those not familiar with the literature at first hand, and many of his own critical comments are difficult to understand, perhaps for the same reason. Thus, he is surely not making a point against Carnap in urging that the truth of empirically testable sentences can not be determined by syntactical analysis; and Neurath would certainly not recognize as his own doctrine a physicalism which is said to identify fact and discourse. The charge that according to physicalism physical laws are "wholly a matter of convention" is difficult to understand, for to my knowledge no responsible subscriber to physicalism has made such a claim. It is also not easy to see why physicalism is abandoning empiricism altogether when it abandons the naïve and "usual" view that protocol sentences can not be rejected on the basis of theoretical considerations. And while Dr. Weinberg is within his rights in demanding some consideration of the correlation of sentences with empirical data, it is also legitimate to institute a division of labor, so that the failure of physicalism to throw light on this matter is not a fatal difficulty.

The concluding chapter offers suggestions for an alternative theory of language which is claimed to avoid the difficulties Dr. Weinberg finds in physicalism. He himself acknowledges the similarity of some of his views to those advanced by Carnap; what seems distinctive is his demand for a definite and univocal criterion for the truth of protocol sentences. I hope that Dr. Weinberg will work out his ideas with greater fullness than he does here, but that when he does he will not operate in terms of an analysis of probability as dubious as his present one. Meanwhile, he is to be congratulated

on having performed a solid piece of analysis of an influential contemporary movement.

E. N.

First Adventures in Philosophy. VERGILIUS FERM. New York: Charles Scribner's Sons. 1936. xi + 548 pp. $2.00.

There are many ways of encountering and encouraging the first adventurer in philosophy, almost as many as there are teachers of the subject. Most of the latter will share Professor Ferm's "bias" in favor of keeping the adventurous spirit alive; but one man's adventure is frequently another man's boredom, and *vice versa.* In this particular introductory textbook, two other biases of its author are more or less at war with his enthusiasm for keeping up enthusiasm, namely, his conviction "that metaphysical questions are the really fundamental questions of philosophy," and his liking for "the kind of mind which likes the systematic." Add an obvious but unavowed bias toward liberal theology, and it becomes evident that the student who is to go adventuring with Professor Ferm must be capable of finding the metaphysical, the systematic, and the theological, adventurous.

The book falls into three main sections. The first four chapters tread well-worn paths in discussing the philosophic spirit; how it is related to science and religion; and the common methods of approach to philosophical questions. There is a strong emphasis upon the common elements in religion and philosophy; and the reader would hardly suspect from Professor Ferm's account that philosophers have been for centuries the traditional critics of religion. Skepticism as a method is attacked by the alleged *reductio* of doubting one's doubts; the author recognizes that skepticism has some value in reflective thinking, but adds that "it has narrow limitations." Thus to begin by walling in our incredulity is hardly to encourage adventure.

The next nine chapters deal with the problem of reality by a process of enumerating systematically the varieties of *isms* which the author finds worthy of inclusion in his scheme. Here the art of affixing labels is carried to the highest possible pitch of development. "Every man to his tag, in as systematic a way as possible—that is the model," explains the book's preface. At the close of his cataloguing, the author speaks of "the bewildered yet interested student who sees something of significance in the various quantitative and qualitative interpretations of reality"; and one can only wonder whether interest would triumph over bewilderment except in a few isolated instances. The remainder of the book discusses separate philosophical problems in much the same systematic fash-

ion. The method is that of a philosophical directory with copious cross-references; and the various alternative solutions to problems are industriously exposed. After so much carefully-indexed "learned argument," however, one wonders whether the really adventurous soul would not flee tag-affixing forever, even to that alternative "chaos in thinking" which the author professes to abhor?

H. A. L.

Re-thinking Religion. A. E. AVEY. New York: Henry Holt & Co. 1936. vii + 294 pp. $2.00.

This book grew out of addresses to students and various extra-academic groups, and it is now offered in print with the wish that it "may prove useful to many who can no longer find satisfaction in current modes of stating the meaning of conceptions which have proved of abiding interest through many generations and centuries" (p. vi). It is thus not meant as a work in pure philosophy, but rather as suggestions to a much wider audience of all those who are interested in religion and are willing to think about it. Yet the "re-thinking" is obviously done by a trained philosopher, and Professor Avey maintains that this is part of the function of philosophy and that unless organized religion coöperates, it will more and more be classed as superstition. To this extent his book represents "Reason in Religion."

Inevitably the religion with which he is most concerned is Christianity, and the ideas which he "re-thinks" are in large part Christian ideas, so that the book might also be entitled "Re-thinking Christianity." The chapter headings are: Re-thinking Religion, Revelation and Religious Knowledge, Good and Evil, God, Immortality, Salvation, The Church, Responsibility, Prayer, Religion and Life. These topics are considered in a systematic way, and Greek, Roman, Egyptian, and Oriental, as well as Christian, doctrines receive attention; but it is always made clear how the traditional Christian statements would have to be recast as a result of criticism, and it is this aspect of the book that will naturally evoke the greatest interest. Obviously the author is what orthodoxy calls a liberal, and indeed he is willing to go to the point of predicting "Mohammedan Christians and Christian Buddhists" (p. 286). But he is not willing to throw Christianity away; and the tenor of his whole argument is that the reason for keeping it is, not that it has been valuable, but that it is valuable.

The work is admirably clear, and the diction simple and free from conceits. The author is manifestly broad-minded, acquainted with the various sides of human experience, without partisan emphasis except for the open advocacy of reason, and a thoroughly com-

petent scholar. He presupposes the need for re-thinking religion, and there is little in what he says that would directly touch one who is satisfied with his own orthodoxy. Others should find the book most suggestive and helpful.

R. S.

OTHER NEW BOOKS AND JOURNALS

Authority and the Individual. Harvard Tercentenary Publications. Cambridge: Harvard University Press. 1937. x + 371 pp. $3.00. (Containing among other lectures the following: "Authority and Social Change": *John Dewey;* "The Problem of Authority and the Crisis of the Greek Spirit": *Werner Jaeger;* "Authority and the Individual during the Different Stages of the Evolution of Nations": *Corrado Gini;* "Klassizismus, Romantizismus und historisches Denken im 18. Jahrhundert": *Friedrich Meinecke;* "Un romantique de 1730: L'Abbé Prévost": *Paul Hazard;* "The Drift to Liberalism in the American Eighteenth Century": *Howard Mumford Jones.*)

Hogben, Lancelot: Mathematics for the Million. Illustrations by J. F. Horrabin. New York: W. W. Norton & Company, Inc. 1937. x + 647 pp. $3.75. (An entertaining account of the development, uses, and structure of mathematics.)

del Vecchio, Giorgio: Saggi intorno allo stato. (Pubb. dell' Istituto di Filosofia del Diritto della R. Univ. di Roma, I.) Roma: Società Editrice del "Foro Italiano." 1935. 246 pp. 10 l. (A collection of his essays in political philosophy and the philosophy of law.)

Giornale Critico della Filosofia Italiana. Anno XVII, Fasc. VI. Il mio ontologismo: *P. Carabellese.* Risposta a Carlini: *P. Carabellese.* Prolegomeni alla "Filosofia perenne." Osservazioni sulla metafisica del Prof. Orestano: *G. Fano.*

Revue Néoscolastique de Philosophie. Tome 40, No. 53. La théorie du lieu naturel d'après Aristote: *A. Hayen.* Le texte authentique du "De aeternitate mundi" de Siger de Brabant: *W. J. Dwyer.* Monographies récentes sur les philosophes du moyen âge: *F. Van Steenberghen.*

Bollettino Filosofico. Anno II, Num. 3. Analisi fisica e sintesi metafisica: *Michele Fatta.* Il concetto di specie nella pratica sistematica da Linneo ai nostri giorni: *Mario Tirelli.* L'obiezione detta del "Circolo Cartesiano": *Achille di Lorenzo.*

Scientia. Vol. LXI, N. CCXCIX–3. Non-Aristotelian Logic and the Crisis in Science: *O. L. Reiser.* Authority and the Indi-

vidual during the Different Stages of the Evolution of Nations. First Part: *C. Gini.*

THE MODERN SCHOOLMAN. Vol. XIV, No. 3. Plato the Statesman: *André Bremond.*

NOTES AND NEWS

The following papers will be read at the Thirty-eighth Annual Meeting of the Western Division of the American Philosophical Association, to be held at Knox College, Galesburg, Illinois, April 22, 23, and 24, 1937: "The Social in Early Greek Cosmology": *Herbert Martin;* "The Psychology of Valuation in Plotinus": *J. S. Marshall;* "Kant's Relation to the British Moralists": *P. A. Schilpp;* "The Philosophy of Moritz Schlick": *H. Feigl;* "Substance as a Locus of Meaning": *W. D. Oliver;* "Messrs. Schlick and Ayer on Immortality": *V. C. Aldrich;* "Negation": *G. Mueller;* "In Search of Scientific Method": *H. D. Roelofs;* "The Nature of Aesthetic Experience": *E. Vivas;* "The Ugly: Dissatisfied Imagination": *B. Morris;* "An Anthropological Approach to Ethics": *R. Pray;* "Moral Skepticism and the Way of Escape": *A. E. Avey;* "Types of Moral Values and Moral Consistency": *W. R. Leys;* "On the Meaning of Objective in Ethics": *G. R. Geiger;* "The Sacramental Concept of Virtue": *J. S. Boughton;* "The Problem of Value in Contemporary Education": *J. A. Lynch;* "American Fiction as an Interpretation of the Democratic Concept": *J. W. Hudson;* "Mr. Krutch and Ideal Values in Literature": *J. W. Beach;* "The Philosophy of Thomas Mann": *V. M. Ames;* "André Malraux —An Interimsethik": *P. B. Rice;* "Logic and the Laws of Nature": *A. G. Ramsperger;* "Structure in Sentence and Fact": *W. Moore;* "Lack of Certainty as to the Truth of Analytical and *A Priori* Propositions": *G. Williams.*

Presidential Address: "Peirce, Mead, and Pragmatism" by *C. W. Morris.*

Guest Lecturer: *Werner Jaeger,* "The Theology of the Earliest Greek Philosophers."

Symposium: "Empiricism and the Language of Science" by *R. Carnap.* Discussion Panel: *R. McKeon, C. H. Langford, Olaf Helmer, A. C. Benjamin, H. Feigl.*

Symposium: "Value and Existence" by *D. H. Parker.* Discussion Panel: *H. O. Eaton, T. V. Smith, D. F. Swenson, Virgil Michel.*